AMENDMENTS TO THE CLAIMS

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method comprising:

providing a data set including an ordered matrix of coefficients;

placing the data set in data processing order by scanning and rearranging the ordered matrix of coefficients of the data set in memory with a non-raster order scan; and

accessing the rearranged data set in memory in a contiguous manner to convert the rearranged data set into a coded data set, wherein frequency weighting is done in zigzag order on the ordered matrix of coefficients.

2. (Original) The method of claim 1, wherein converting the rearranged data set into a coded data set further comprises performing bit plane extraction on the rearranged data set in memory.

3. (Original) The method of claim 2, further comprising the step of storing the rearranged data set in a memory buffer before performing the bit plane extraction step.

4. (Original) The method of claim 1, wherein the data set is visual information.

5. (Original) The method of claim 4, wherein the visual information is encoded with a progressive encoder to create a base layer and at least one enhancement layer.

6. (Original) The method of claim 1, further comprising the step of encoding visual data using transform coding to create the ordered matrix of coefficients.

7. (Original) The method of claim 6, further comprising the step of providing a discrete cosine transform to create the ordered matrix of coefficients.

8. (Currently Amended) A method comprising:

providing a coded data set;

converting the coded data set into a data set in memory with a non-raster order scan;

placing the data set in data processing order by scanning and rearranging the data set in memory into an ordered matrix of coefficients;

performing frequency weighting in zigzag order on the ordered matrix of coefficients; and

accessing the rearranged data set in memory in a contiguous manner.

9. (Original) The method of claim 8, wherein converting the rearranged data set into a coded data set further comprises performing bit-plane insertion on the data set in memory.

10. (Original) The method of claim 8, further comprising the step of decoding visual data using transform coding on the ordered matrix of coefficients.

11. (Currently Amended) An article comprising a computer-readable medium which stores computer-executable instructions, the instructions causing a computer to:

accept a data set including an ordered matrix of coefficients;

place the data set in data processing order by scanning and rearranging the ordered matrix of coefficients of the data set in memory with a non-raster order scan;

access the rearranged data set in memory in a contiguous manner to perform bit plane extraction on the rearranged data set in memory;

perform frequency weighting in a zigzag order on the ordered matrix of coefficients and

quantize the rearranged data set by discarding a subset of the rearranged data set.

12. (Original) The article of claim 11, further comprising the step of storing the rearranged data set in a memory buffer before performing the bit plane extraction step.

13. (Original) The article of claim 11, wherein the instructions cause the computer to operate on a data set of visual information, and create a base layer and at least one enhancement layer.

14. (Original) The article of claim 11, wherein the instructions cause the computer to encode visual data using transform coding to create the ordered matrix of coefficients.

15. (Currently Amended) An article comprising a computer-readable medium which stores computer-executable instructions, the instructions causing a computer to:

accept a coded data set;

convert the coded data set into a data set in memory with a non-raster order scan;

place the data set in data processing order by scanning and rearranging the data set in memory into an ordered matrix of coefficients;

perform frequency weighting in zigzag order on the ordered matrix of coefficients; and

access the rearranged data set in memory in a contiguous manner.

16. (Original) The article of claim 15, wherein the instructions cause the computer to perform bit-plane insertion on the data set in memory.

17. (Original) The article of claim 15, wherein the instructions cause the computer to decode visual data using transform coding on the ordered matrix of coefficients.

18. (Currently Amended) A system comprising:

a data input module provide a data set including an ordered matrix of coefficients;

a data scan module to place the data set in data processing order by scanning and rearranging the ordered matrix of coefficients of the data set in memory with a non-raster order scan;

a bit plane extraction module to operate on the rearranged data set by accessing the rearranged data set in memory in a contiguous manner, wherein frequency weighting is done in zigzag order on the ordered matrix of coefficients; and

a quantization module to compress the rearranged data set by discarding a subset of the rearranged data set.

19. (Original) The system of claim 18, further comprising an encoding module to encode image data using transform coding to create the ordered matrix of coefficients.

20. (Original) The system of claim 18, wherein the data scan module stores the rearranged data set in a memory buffer before performing the bit plane extraction step.

21. (Original) The system of claim 18, wherein the data set is visual information.